

**Table S1** Enzymatic profile of *Acidobacteria* determined by API ZYM detection of enzymes system

GP	Genus	$\alpha$ -Galactosidase	$\beta$ -Galactosidase	$\beta$ -Glucuronidase	$\alpha$ -Glucosidase	$\beta$ -Glucosidase	N-Acetyl- $\beta$ -glucosaminidase	$\alpha$ -Mannosidase	$\alpha$ -Fucosidase
1	<i>Acidobacterium</i>	+	+	+	+	+	+	-	-
	' <i>Acidipila</i> '	+	+	-	+	+	+	-	+
	<i>Acidicapsa</i>	+	+	+	+	+	+	+	+
	<i>Edaphobacter</i>	+	+	+	+1	+1	+1	-	+
	<i>Terriglobus</i>	+	+	+	+	+	+	+6	+
	<i>Granulicella</i>	+2	+	+	+3	+	+3	+4	+4
	<i>Bryocella</i>	ND	+	+	+	+	+	ND	ND
	<i>Telmatobacter</i>	+	+	+	ND	+	+	-	+
	' <i>Occallatibacter</i> '	+	(+)	+	+	-7	-7	+	+
	' <i>Silvibacterium</i> '	ND	+	+	+	+	+	ND	ND
	' <i>Terracidiphilus</i> '	ND	+	+	+	+	+	ND	ND
3	<i>Bryobacter</i>	-	+	-	-	+	+	+	+
	<i>Paludibaculum</i>	-	+	-	-	+	+	-	+
4	<i>Pyrinomonas</i>	-	-	+	+	-	+	-	-
	' <i>Blastocatella</i> '	-	-	(+)	-	-	(+)	-	-
	<i>Aridibacter</i>	-	-	(+) <sup>5</sup>	(+)	+	+	-	-

Acidobacteria from subgroups 8, 10, and 23 were not tested with API ZYM (Biomerieux). <sup>1</sup> negative or weak for *E. aggregans* and *E. dinghuensis*. <sup>2</sup> negative for *G. rosea* and *aggregans*. <sup>3</sup> negative for *G. rosea*. <sup>4</sup> negative for *G. maleensis*. <sup>5</sup> negative for *A. kavangonensis*. <sup>6</sup> Negative para *T. albidus*. <sup>7</sup> Negative for *O. savannae*. Detailed results in supplemental material